

## I. CLAIM OBJECTIONS

The Examiner has objected to claim 15 as being in improper dependant form for failing to further limit the subject matter of a previous claim. Pursuant to the Examiner's suggestion, applicant has cancelled claim 15 and has amended claim 16 such that it will depend from claim 14 instead of claim 15. Accordingly, applicant submits that all of the pending claims are in proper form.

## II. CLAIM REJECTIONS - - 35 U.S.C. §102

### A. U.S. Patent No. 5,766,388 (Pelley)

The Examiner has rejected claims 1 through 7 pursuant to 35 U.S.C. §102 based on the disclosure of U.S. Patent No. 5,766,388 (Pelley). Applicant submits that Pelley does not teach particular elements of applicant's invention, and in fact, teaches an article which is clearly inferior to applicant's invention.

The Examiner has stated that Pelley teaches an absorbent product which includes "an absorbent structure 204 having a cover layer 206, a fibrous layer 208, *equated to applicant's 'liquid permeable top sheet'...*";(emphasis added) Applicant submits that this characterization is inaccurate since applicant's liquid permeable top sheet cannot be identified with the fibrous layer taught by Pelley. In the context of describing the construction of the absorbent product, Pelley states that as the fibrous substrate or web is moving, air flowing through the open areas of a masking belt carries entrained absorbent material into the fibrous web, which acts as a filter to separate the entrained material from the air stream (column 2, lines 1-5). Pelley's teaching (embedding the absorbent material into the fibrous layer) teaches away from and is in stark contrast to applicant's liquid permeable top sheet which is specifically designed to contain no SAPs.

In further support of applicant's position, applicant makes particular reference in the specification to how prior art in this field has been insufficient:

Up until now, SAP's (super absorbent polymers) have been used as part of the absorbent core of waste collection pads *by disbursing or blending them in conventional absorbent fibers, such as cellulosic fibers interspersed with SAP particles. Such a product, however, is less than satisfactory.* In the first place, cellulosic

fibers, even when interspersed with SAP particles, have modest liquid retention properties, especially under pressure, since the fibers effectively act like a sponge -- when pressure is applied, the retained liquid in the sponge-like cellulosic fibers is, at least in part, "squeezed" out. Another problem is that cellulosic fibers do not completely absorb the excreted liquid waste. As a result, the pad top sheet or surface can often get wet, and therefore odor control is less than satisfactory.

Pelley only teaches an article constructed through a process of applying absorbent material within a fibrous substrate. The undesirable functions of a pad where the absorbent material is dispersed within conventional absorbent fibers as disclosed by Pelley (such as "cellulosic fibers, including wood pulp and cotton pulp; synthetic fibers, including polyolefins, polyesters and bicomponent fibers") are explicitly what applicant's invention seeks to overcome. The Pelley pad suffers from reduced and inefficient retention of liquids as a direct result of its construction, especially when placed under pressure. In addition, by incorporating SAPs into a fibrous web, the Pelley pad also suffers from increased thickness, which is similarly undesirable. Accordingly, it is clear that Pelley teaches an article which applicant's invention specifically denounces as "less than satisfactory," and teaches away from applicant's novel invention, the use of SAPs as a distinct absorbent layer of their own, attached by an adhesive to a liquid impermeable back sheet.

Applicant further submits that Pelley does not teach or otherwise suggest an adhesive that is used to directly adhere SAPs to a barrier layer 212, which the Examiner has equated to applicant's "liquid impermeable back sheet," without the intervention of a fibrous substrate. Among the adhesives referenced in connection with the absorbent product taught by Pelley is the optional use of an adhesive pattern that is applied to the web in order to partially immobilize the absorbent material within the fibrous substrate (column 4, lines 17-21). Clearly, this does not preclude the patentability of applicant's claimed invention, nor has the Examiner proposed such, since this adhesive does not adhere the SAPs directly to the barrier layer or back sheet but instead adheres the SAPs within the fibrous web.

Similarly, applicant submits that the use of construction adhesive 210, which the Examiner has considered to be analogous to applicant's claimed adhesive, also does not teach any element of applicant's claimed invention. As shown in Fig. 8 and discussed in column 6, lines 20-28 of Pelley, the absorbent structure 204, having a cover layer 206, a fibrous layer 208 (containing the absorbent material 202) and construction adhesive 210, may be laminated to barrier layer 212. There is no reference or suggestion that the construction adhesive 210 binds only the absorbent material 202 (contained within the fibrous layer 208) directly to the barrier layer. Indeed, upon a careful reading, Pelley makes no mention at all of any absorbent material being adhered directly to the barrier layer 212, but only that it is "fully contained" within cover layer 206, barrier layer 212 and densified areas 222 (column 6, lines 29-35). Accordingly, Pelley does not show or even suggest the use of adhesives for binding an independent, self-contained, layer of SAPs directly to a liquid impermeable back sheet.

### **III. CLAIM REJECTIONS - - 35 U.S.C. §103**

#### **A. U.S. Patent No. 5,433,994 (McKinney)**

The Examiner has rejected claim 5 pursuant to 35 U.S.C. §103 as being unpatentable over Pelley in view of U.S. Patent No. 5,433,994 (McKinney).

McKinney teaches a superabsorbent structure 20,70 that may be utilized in various liquid-absorbing applications. McKinney provides for a permeable means 30,80 that is laminated to the superabsorbent structure 20,70. The superabsorbent structure comprises a superabsorbent polymer mixed into a non-expanded solid matrix material where the latter is selected from a group consisting of cellulose esters, acrylic acid esters, polyvinyl esters or copolymers. Additionally, an adhesive means 40,90 may be optionally included.

However, contrary to the Examiner's assertion, applicant understands that column 1, lines 50-67 of McKinney does not teach or suggest that the adhesive layer is "impermeable." Accordingly, McKinney only teaches two relevant layers – a permeable layer and a superabsorbent layer – and is therefore clearly distinguishable from applicant's invention. Further, and to the extent that

McKinney also teaches an embodiment comprising a cushioning means 60, McKinney discloses that "the passage of liquid from structure 70 to cushioning means 60 is less important." (column 2, lines 7-9) Therefore, McKinney is decreasingly relevant and, in important respects, actually teaches away from applicant's invention since McKinney purposely ignores the impermeability of a third layer.

Finally, while McKinney teaches the use of an SAP in the form of a starch modified polyacrylic acid, McKinney makes no suggestion, whether explicitly or implicitly, to use this form of SAP for the purpose of neutralizing ammonia (basic) to form a neutral salt. Typically, SAPs may be distinguished and selected based on their particular water absorbing characteristics and/or production properties. However, there is no suggestion in McKinney to choose one SAP over another based on the SAP's inherent acidity. If there were such a suggestion, relative acidic concentrations would have been disclosed or otherwise suggested to ensure that an optimally acidic SAP was chosen. In other words, since ammonia is weak base, it would be optimal to use a weak acid to neutralize ammonia. If an exceedingly strong acid is utilized instead of a weak one, the results may not be as beneficial. However, McKinney fails to highlight or even mention these factors in the context of an SAP. Accordingly use of an SAP that is labeled as an "acid" is merely incidental to its chemical makeup and not suggested for its inherent chemical properties vis-à-vis the absorbed products.

B. U.S. Patent No. 4,900,377 (Redford)

The Examiner has also rejected claims 9-12 and 14-18 pursuant to 35 U.S.C. §103 as being unpatentable over Pelley in view of U.S. Patent No. 4,900,377 (Redford).

In her rejection, the Examiner has asserted, "Redford discloses a limited life pad which can be used as an absorbent towel. The edge of the towel can be perforated so that when separated from another towel, if formed in a roll, a soft edge results (column 12, lines 25-50 and Fig. 14.)"

For purposes of clarity, applicant believes that the Examiner inadvertently indicated "column 12, lines 25-50" and instead intended to refer to Example 12, disclosed in column 23, lines 25-50.

Firstly, applicant submits that Pelley specifically teaches away from the applicant's claimed packaged roll in the context of an absorbent pad. Therefore, claims 9-12 and 14-18 should not be rejected pursuant to 35 U.S.C. §103. Applicant respectfully points the Examiner to column 3, lines 58-65 wherein Pelley teaches, "From the forming station 22, the fibrous web 10 can continue on for further processing such as...cutting individual absorbent products from the continuous web 10." Based on this, it is clear that Pelley teaches a laminated absorbent structure that is not designed to be in a rolled form. In further support, applicant points to column 1, lines 17-19 wherein Pelley discloses particular articles which would be more aptly produced based on his disclosure. Included among these articles are diapers, adult incontinence guards and sanitary napkins, all of which are not kept in roll form.

Secondly, applicant submits that Redford fails to show or suggest applicant's claimed packaged roll in the context of an absorbent article sufficiently analogous to applicant's disposable pad. Generally, neither Redford, nor the aforementioned Pelley and McKinney patents, teach an absorbent pad constructed by adhering an independent, self-contained layer of SAPs by adhesive directly to a liquid impermeable back sheet. Specifically, Example 12 provides details of the towel's properties and characteristics that distinguish it entirely from anything resembling applicant's invention. In particular, Redford teaches that the towel has a core formed of 20% Pulpex® and 80% wood pulp fibers which is thermobonded to "facing" and "backing" sheets made out of the same material, namely, non-woven polypropylene. This is in stark contrast to applicant's invention, which has an independent absorbent layer comprising SAPs situated between front and back layers made up of entirely different materials, one being liquid-permeable and the other being liquid-impermeable. Accordingly, any roll form taught by Redford should not be considered for §103

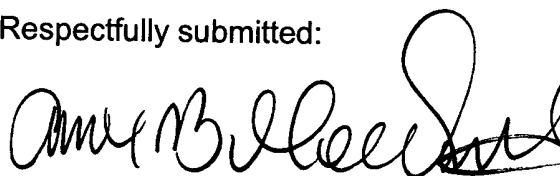
obviousness purposes in conjunction with an absorbent article that is so structurally distinct from applicant's invention.

#### IV. CONCLUSION

Accordingly, it is respectfully submitted that the subject application is patentably distinguishable over the prior art and is in condition for allowance.

Dated: July 22, 2003  
New York, New York

Respectfully submitted:

A handwritten signature in black ink, appearing to read "Amy B. Goldsmith", with a large, stylized loop at the end.

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## APPENDIX A

1. A disposable absorbent article comprising:
  - a liquid permeable top sheet;
  - a liquid impermeable back sheet; and
  - an absorbent layer disposed between said top sheet and said back sheet and comprising super absorbent polymer granules directly adhered to said back sheet by an adhesive and no additional.
2. The article of Claim 1, wherein said top sheet comprises a material selected from the group consisting of porous foams, apertured films, natural fibers and plastic synthetic fibers.
3. The article of Claim 1, wherein said back sheet comprises a film selected from the group consisting of extruded polyethylene and extruded polypropylene.
4. The article of Claim 1, wherein said super absorbent polymer is a cross-linked sodium polyacrylate.
5. The article of Claim 1, wherein said super absorbent polymer is an acidic super absorbent polymer.
6. The article of Claim 1, wherein said adhesive is selected from the group consisting of organic adhesives, vegetable adhesives and synthetic adhesives.
7. The article of Claim 6, wherein said synthetic adhesives are selected from the group consisting of thermo-setting adhesives, thermoplastic resins and elastomeric adhesives.

8. The article of Claim 1, wherein the article has a thickness of between about 0.015 and 0.025 inches.

9. A packaged roll of disposable articles comprising a plurality of absorbent pads, selectively separable from one another, each said pad including a liquid-permeable top sheet, a liquid-impermeable back sheet, and an absorbent layer disposed therebetween and defined solely by super absorbent polymer granules directly adhered to said back sheet.

10. The roll of Claim 9, wherein said top sheet comprises a material selected from the group consisting of porous foams, apertured films, natural fibers and plastic synthetic fibers.

11. The roll of Claim 9, wherein said back sheet comprises a film selected from the group consisting of extruded polyethylene and extruded polypropylene.

12. The roll of Claim 9, wherein said super absorbent polymer is a cross-linked sodium polyacrylate.

13. The roll of Claim 9, wherein said super absorbent polymer is an acidic super absorbent polymer.

14. The roll of Claim 9, wherein said adhesive is selected from the group consisting of organic adhesives, vegetable adhesives and synthetic adhesives.

15. (Cancelled)



16. The roll of Claim [15] 14, wherein said synthetic adhesives are selected from the group consisting of thermo-setting adhesives, thermoplastic resins and elastomeric adhesives.

17. The roll of Claim 9, wherein said pads are selectively separable from one another along a transverse score line.

18. The roll of Claim 9, wherein each pad has a thickness of between about 0.015 and 0.025 inches.

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